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EVALUATION OF THE

COFFEE REVITALIZATION PROJECT
(521-0216)

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COFFEE SECTOR REVITALIZATION PROJECT (PPK)

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EXECUTIVE SUMMARY

1. The Coffee Revitalization project, 521-0216, was restarted in February, 1993 under a Project Paper Supplement. There were several changes from the original design, the most important of which was to use a cropping systems approach instead of working only with coffee. This approach is working well.

2. The project appears to be achieving its objectives in terms of numbers of participants (8,800 farmers in 745 *groupements* and 15 associations), seedlings in nurseries, and improved coffee trees planted. There will be very little production from the new varieties by the current PACD; however, when they produce, the yields should be higher than for *cafe indigene*.

3. Coffee seedlings continue to be subsidized by the project. These subsidies should be phased out gradually, by asking farmers to pay more for seedlings as they begin to receive income from improved coffee trees and cultural practices.

4. While all the new varieties will give greater yields than *cafe indigene*, only the catimor is truly rust-resistant. About one third of the new trees being planted are of the catimor variety.

5. Training and technology transfer are proceeding well. Production of seedlings and cultivation of coffee trees are being done adequately, although some areas for improvement are mentioned in this report.

6. Fourteen small processing plants have been constructed and should be in operation during the next harvest. These plants can produce high quality coffee if they are operated properly. Their capacity is limited by the size of their drying areas.

7. The project has not yet developed a coherent marketing strategy and should put more emphasis on this activity. The coffee now in stock should be sold to COHAN, and the project should work with both COHAN and Gary Talboy to set up a marketing system for the 1994-95 crop.

8. The financing mechanism and the agricultural input stores are beginning to function and show considerable promise. Availability of fertilizer has improved where stores are located.

9. The PPK project is serving only about 3% of the country's coffee farmers. There has been some project outreach to indirect beneficiaries. This effort should be increased in the future, in coordination the Ministry of Agriculture and the PLUS project.

10. The *groupements* and associations are grass roots democratic organizations. They must be nurtured through continued training, support, and information in organization management as well as coffee production and marketing.

11. Project staff appear to have very good relations with farmers, rural authorities, and Ministry of Agriculture officials in areas where the project operates.

12. The monitoring and evaluation system is extensive and seems likely to be effective. The first monitoring reports, however, have not yet been received, however.

13. This project is having significant beneficial effect on soil and water conservation. If project activities were to end, planting of coffee would decrease and soil and water conservation would be jeopardized.

14. The trade embargo is very harmful to the project. It affects travel to project areas, input supply, transportation of parchment coffee, and markets for the product.

15. By PACD the Project will have achieved the goal and purpose as stated in the Project Modification Document of 1993. However, sustainability of key components will not be assured. **The project clearly is economically viable when potential income from increased non-coffee crops and from higher prices for washed coffee are taken into account.**

16. **We recommended the project be continued largely as it is now for at least one and a half years beyond the current PACD.** After that, the input supply and processing parts should be redesigned as a Rural Enterprise Development Project executed by a grantee. Other components, notably the coffee extension system and seedling production, should be absorbed by merging these activities with those of the PLUS Project in a larger sectoral program.

17. The project should analyze production of and markets for organically grown coffee and consider experimenting with it in at least one growing area.

ACRONYMS

COHAN	Cooperation Haitio-Neerlandaise
EOPS	End of Project Status Indicators
FAO	Food and Agriculture Organization of the United Nations
GIS	Geographic Information Systems
Gs.	Gourdes, Haitian monetary unit Gs14 = $1 US
HDF	Haitian Development Foundation
IICA	Inter-American Institute for Cooperation on Agriculture
LAC TECH	LAC A/NR Technical Services Project
LOP	Life of Project
NGO	Non-Governmental Organization
PACD	Project Assistance Completion Date
PADO	Private Enterprise and Agricultural Development Office
PPK	"Pwoje Plante Kafe"
SPI	Strategic Performance Indicators
UNDP	United Nations Development Programme
USAID	United States Agency for International Development (AID)

BACKGROUND

Haiti is a country which is coming apart at the seams socially, economically, and environmentally. Its economy is stifled by mismanagement and the economic embargo, imposed in response to the military action in September, 1981. Non-humanitarian USAID assistance to Haiti was terminated after the military action and resumed after a lapse of nearly 18 months. At that time AID assistance was targeted at mitigating the effects of the embargo on Haiti's poorest citizens. Activities involving food aid were undertaken and those projects deemed to impact on improving the well being of the rural poor were reactivated with modified objectives to emphasize democracy-building and environmental protection. Among these was the Coffee Revitalization Project (No. 521-0216).

The Project goal is to **increase coffee productivity and farmer income in Haiti.** The project purpose was revised upon resumption of activities in 1993 to encompass a **better quality of coffee cultivation in Haiti by promoting higher yielding, rust tolerant varieties and ecologically sustainable production practices.** Despite a year and a half rupture in the delivery of project technical assistance, prospects for achieving the purpose of PPK by PACD are positive.

The Project is administered under a grant to the Inter-American Institute for Cooperation on Agriculture (IICA). The total grant amount was originally set at $4.545 million and was reduced in 1994 to $4.148 million.

The project was suspended in September, 1991 for the reasons cited above. Project activities resumed in February, 1993, modified as detailed at the beginning of the section on marketing. PPK has from the beginning utilized a decentralized approach, building institutional strength from the base. It has also sought to capitalize on the obvious value of coffee as both a cash and a tree crop in combating the accelerating erosion which threatens all of Haiti's agricultural and natural resource base.

This evaluation was undertaken to assess appropriateness of the project, effectiveness of project activities, progress to date, and potential for sustainability. It was intended to help Mission management determine whether implementation options and strategies are effectively contributing to attainment of the goal and purpose.

Technical Approach and Performance

A. PROJECT IMPLEMENTATION.

USAID has a long tradition of support for the coffee sector in Haiti. A number of initiatives in the past have run up against the same constraints that continue to retard development of the country's social and economic fabric. The lessons learned from these experiences culminated in the Coffee Revitalization Project, known locally by its Creole acronym PPK. Unlike previous efforts, this project approaches the development of the sector from a cropping systems perspective believed to be more in keeping with the real interests of Haitian farmers. It becomes clear when visiting the field that this approach was well conceived.

1. Performance by Project Component.

Seedling Production. This component is extremely popular, not only with Project farmers, but with indirect beneficiaries and farmers in adjacent areas. Only about a third of the tree stock in these nurseries is of the Catimor variety, however. The other varieties, while equally productive, are not really "rust tolerant". Moreover, some minor lapses in quality control were noted where *indigene* stock was growing in nurseries with the improved varieties. This will result in the old plants providing too much shade for the new ones and in a mixing of seeds between the two kinds of plants.

Training and Technology Transfer. This is the primary vehicle for extension of the Project's major technical package. The package is well adapted to local needs and well understood by farmers. The inter-cropping system being promoted shows every evidence of economic sustainability. The availability of high quality certified seeds and the problems with seedling nurseries (noted in the following section) could pose a problem here. Basically, a good foundation has been laid for establishment of a viable and sustainable bottom up extension approach.

Up to this point these objectives have been achieved through a relatively intensive extension service administered by the Project. However, the most important innovation of this component has been the creation of an organizational structure based on locally-managed producers associations. The Project needs to make a concerted effort to accelerate the transfer of skills to these associations. Once the associations have acquired the ability to meet their own technical and extension needs, this activity should be sustainable. In the meantime it may require additional, lower, levels of effort.

Marketing. This is the component that was deemed to be the most crucial to Project success in the redesign process of 1992. It is still the one which needs the most work. The Project has been focused on the construction of a number of small coffee processing centers managed by local associations. These associations have demonstrated the capability to produce high quality washed parchment coffee. Insufficient attention has been given to the need to establish a clear chain of relationships among producers, processors, marketers, and exporters.

The Project has invested time and effort in prospecting for an international niche market which would link Haitian producers with consumers in importing countries. While this initiative is beginning to show promise, this procedure is likely to take a considerable amount of time. In the meantime, associations have parchment deteriorating in inventory and have financial liabilities resulting from operating loans for the operation of washing stations.

The terms of reference for this component clearly indicated that every effort was to be made to establish the necessary linkages with local buyers, wholesalers and exporters, in addition to experimenting with relatively sophisticated approaches to specialized export markets. This clearly has not been done. An effective system for monitoring and disseminating market information (especially local and export prices) has not yet been developed. The project has wasted time and probably missed opportunities by not working on improving access to the local coffee marketing chain for Project farmers. The marketing component, including the processing centers, is not sustainable at this time. PPK cannot abdicate its responsibility for actions taken or not taken in this regard. It must make every effort to develop a coherent marketing strategy which may include linkages to the traditional local market and export channels.

Provision of Inputs. This activity shows excellent promise. The associations which have taken out loans for the purchase of fertilizer are successfully providing an important service to their members and the community. The quick turnover of inventory has meant that most associations involved in input supply should be able to service their loans and make a profit. One or two of these associations are well on the road to establishing positive credit ratings with HDF. As success rates increase, HDF, in turn should be willing to increase its commitment to this initiative.

The Project needs to make a strong effort to turn over to the associations the job of supervising repayment of the loans. Credit supervision is a de facto subsidy to both HDF and the associations at the present time. With continued training in loan management, the associations should easily be able to assume this function. There are admittedly social problems associated with putting farmers not comfortable with dealing with the "capital" in the position of negotiating directly with banks and other financial intermediaries. These can be overcome with training. This component shows the most promise for early sustainability.

2. Impact Indicators.

When this project began it held the promise of being able to apply the lessons learned from previous USAID experience in the coffee sector, i.e., a commitment to promoting economic growth through sustainable institutions working from the bottom up, the necessity to undertake actions which protect the environment as well as achieve increased incomes, and an awareness of the potential of new coffee varieties.

End of Project Status (EOPS) targets are likely to be achieved in the principal quantitative aspects of the Project--hectares planted with new varieties and numbers of participants. Nearly 700,000 seedlings have been planted on 276 hectares. This is equal to a third of the objectives for those two activities. A quantity of improved seedlings sufficient to plant an additional 680 hectares is in Project nurseries. This is enough to easily surpass LOP targets. Levels of achievement in other EOPS are as follows:

- Rust resistant Catimor varieties are already growing in many farmers' plots. The project has the capacity to plant nearly 800,000 Catimors by PACD, a hopeful sign that coffee rust will indeed be retarded in the project area.

- The quality of coffee produced in the project area has improved primarily due to the production of washed coffee at association managed pulping stations. Price incentives associated with this activity indicate that farmer incomes will be raised if they continue to participate in it (see Table I, Farm Budget Analysis).

- PPK estimates that around 60% of the seedlings that were in nurseries when Project activities ceased in 1991 survived. Those plantations which have trees planted with this stock are performing well and show every sign of significant increases in production over traditional varieties. Most new varietal stock has been planted since 1993, however, making it unlikely that yield increases of 80% will be reached before PACD.

A set of Strategic Performance Indicators (SPIs) keyed to Project outputs was developed for the revised project. Of the 22 SPIs, partial information on twelve is available from project and association records. Eight more require action by the independent monitoring and evaluation firm to amass sufficient data to make judgements on the level of their achievement. Such action should be taken in the next two months.

Two of the SPIs concerned with monitoring of environmental indicators will probably have to be revised or analyzed by means outside the scope of activities of the Project. (The volume of water saved from runoff, SPI II.2., should be the object of a hydrological survey, and the percent increase in areas under permanent vegetative cover, SPI III.2., would be better assessed using GIS techniques.) A table summarizing the status of each SPI is attached as Annex I.

Since reactivation in February, 1993 the Project has moved rapidly to address revised staffing needs. Also it has initiated a new coffee-based cropping system, prepared training materials and begun training activities, and launched the coffee processing and marketing component. Summary reports of levels of achievement of Project objectives are submitted to USAID for each six month period. They show a steady progress toward achievement of LOP targets. Further analysis of problem areas and technical performance by component are contained in the following section.

B. PROGRESS IN ACHIEVING PROJECT IMPACTS.

1. Beneficiaries.

The PPK has reached nearly 9,000 coffee producers in the Jacmel and Beaumont areas, organizing them into *groupements* and associations as the following chart demonstrates:

Zone	No. Groupements	No. Assns.	No. Members	Total Pop. of Zone
Beaumont	418	9	5,500	37,000
Jacmel	327	6	3,300	22,000
Total	745	15	8,800	59,000

Source: PPK Regional Offices.

Figures in the table above represent a total investment per direct beneficiary in the Project of around US$500. More accurate estimates of the return to investment will be available as information from the monitoring and evaluation component becomes available.

About 20% of association members overall are women. Most of these are household heads who own their own coffee plots. In the Jacmel area, where many men have migrated to the Dominican Republic for work, a higher percent age of participants are women. Ten of the 51 ATRs in the Jacmel Zone are women, and their performance is rated as above average by the Regional Agronomist. Indeed, groups where women have strong management influence tend to have better organizational coherence and financial performance (for example, in the management of loans and inventories in agricultural input stores).

Women's roles in the Project extend considerably beyond their membership in groupements and as extension agents. Women play a major role in farming in Haiti. Their efforts are focused especially on the production and sale of food crops. In the household coffee operation they provide labor for the important tasks of planting, weeding, and harvesting. Moreover, they provide a key link between production and marketing. Women sell a significant portion of the small farm natural coffee production in local markets, contributing both to household cash-flow and to the flow of coffee for domestic consumption.

It is difficult to estimate the number of indirect beneficiaries. No specific SPI was developed to measure this variable of this project. PPK puts the number at 14,000. It is conceivable that, because of PPK's high profile and good reputation in the Project zones, the number of indirect beneficiaries could eventually be as high as the total population of the zones affected. In the La Montagne district, next to Jacmel, demand for certain project services, such as improved seedling varieties, is very strong. Most people in this area expressed a preference for the nursery management technology as a way of incorporating the Catimor and Caturra varieties rather than purchasing nursery stock from PPK groups and transporting it over the rough roads to their plantations.

Radio programs produced by the Project are listened to by coffee producers over a wide area. Evidence of their popularity is the fact that "Copain Cafe," the announcer of the programs, has become something of a folk hero in coffee growing areas.

2. Financial Benefits at the Farm Level.

Assuming a survival rate of around 60% for the 900,000 seedlings planted in the first phase of the Project, most coffee trees planted will be one year old or less at PACD. The crops associated with coffee, however are designed to give the farmer an income stream well before the coffee plantation reaches maturity (a period of around four years). PPK keeps records of performance of the cropping system on certain farmers' fields in the Jacmel area. One of the farmers who has been a participant since Phase one, i.e., before the rupture of activities in 1991, has four year old coffee trees just coming into production. While coffee accounted for only Gs50, net revenues from his 0.25 Hectare plot, inter-cropped with plantain and cocoyam, brought in over Gs.25,000. ($1750 US) in the 1993/94 agricultural season.

Comparative farm budgets of the financial returns to higher quality, washed coffee versus the traditional natural coffee were calculated using figures extrapolated from a report by Werliegh & Gardella. Table 1. shows that on one Hectare coffee plots at full production, the new technology yields significantly higher income in the coffee operation alone. The opportunity costs per hectare and per day indicate that there is sufficient financial incentive for farmers to switch to the new technology. Since coffee is a perennial crop this represents an incremental income stream over 15-20 years, assuming all other factors remain constant.

Using approximate figures of project cost US$4 million and number of beneficiaries 16,000 (8,800 direct and a very conservative estimate of indirect beneficiaries), the cost per beneficiary becomes $250. The increase in annual income from coffee, as per Table 1, is approximately Gs1200 per hectare. Using an average farm size of 2.5 hectares, the increase is Gs300, or US$21, per beneficiary. Although a discounted cash flow of $21 per year may not reach US$250, the project clearly is economically viable when one considers income from non-coffee crops and the potential for significant increases in the price of washed coffee. We understand that a Haitian exporter is now paying Gs12 per pound for this product in the northern part of the country.

Table 1: Comparative Farm Budgets
(in Gourdes unless otherwise indicated)

Technology:	Traditional (Natural Coffee)	Improved (Washed Coffee)
Price	Gs.6.5	Gs.7
Yield	250	500 Marmites
Labor Use (Man Days)	50	70
Value of Crop (Gs)	1625	3500
Fertilizer	0	440
treatments, etc.	0	100
Land Prep.	52	200
Planting	40	50
Cultivation	90	450
Pruning/thinning	40	100
Development Costs (Depreciation)	0	250
Tools	20	40
Harvest	144	300
Drying	220	0
Hulling/Cleaning	100	100
Bagging	40	0
Transport	220	140
Total Costs	966	1630
Cost per Unit of Product	4	3
Income per:		
-Hectare	659*	1870
-Person Day	13*	27
Net Margin/lb. at Farm gate	2.5	4

* Opportunity Cost

Marmite = 4 Liters (@ 5 lbs.).

3. Project Objectives.

The objective of PPK was to promote the development of the coffee sub-sector through introduction of more productive, rust resistant varieties and improved production technology. However, by far the most promising innovation introduced by the Project has been the formation of locally-managed producer associations. This has been an essential step in constructing an institutional base for accomplishing project goals in a way which is sustainable and leads to self-managed development. The next step in this process is building into these associations the kinds of technical and managerial competencies which will be needed to assure their sustainability.

The PPK approach remains largely extension-oriented. The Project has developed a relatively intensive network of extension agents. A key element in this network is the ATRs, who are members of the community they serve. ATRs provide the essential link between the technical and operational aspects of the Project. The technical package promoted by the Project is well adapted to local needs. While work remains to be done on certain themes, i.e., pruning and progressive replacement of old or damaged trees, individual farmers have mastered its basic elements--the care and planting of better performing varieties and inter-cropping of productive shade species and coffee. Nevertheless, a concerted effort needs to be made between now and PACD to build competencies within the associations to manage themselves as rural businesses.

The focus of these efforts should be in those areas where the Project has promoted the formation of fixed capital assets, i.e., seedling production, processing, and input supply stores. Project activities need to be re-oriented to emphasize cooperative management, rural enterprise management, and financial management. *Groupements* producing planting stock through tree nurseries must understand the necessity of covering their full costs of production. Whereas *groupements* now sell seedlings at a fraction of their cost to their own members, they need to learn to run these nurseries more as businesses as project subsidies are eliminated.

Association-managed input supply stores show the greatest potential for financial sustainability in the short run. Several associations are ready to pay off loans for fertilizers and are working on establishing credit ratings with HDF through second loans. Currently the Project subsidizes much of the administrative and follow up costs of these loans. To assure sustainability of this activity, PPK needs to more fully integrate the members of these associations into the process of identifying a suitable supplier, negotiating an acceptable price, and managing the loan from application to final payment. Even more work remains to be done to ensure the long-term economic viability of the association-managed coffee washing stations promoted by the Project.

To date, something over 700 pounds of parchment coffee has been sold by only one association. It realized a profit of Gs1400 over operating costs (not counting depreciation). The associations that processed coffee this year have about five tons of parchment coffee in inventory and may have three times that amount before the season is over and there is no immediate buyer

in sight, except possibly COHAN. This build up of inventory is due partly to expectations of very high prices that have been created in some associations by the U.S. niche market strategy pursued by PPK.

4. A More Opportunistic Marketing Strategy.

While individual members are happy with the money they have made from sales to the associations, there is as yet no real appreciation on the part of the latter of the fact that the first payments on operating loans from HDF for these units are about to come due. When asked about this situation, most farmers replied that they were counting on PPK and its international marketing consultant to produce a buyer in time to service the loans.

Unless measures are immediately undertaken to identify and negotiate with potential buyers for the 5 tons or so of washed coffee in storage, the economic viability of the washing stations and of the associations will be compromised. Such actions are even more necessary for next year's potentially much larger production. In effect, the Project must widen the scope of its marketing efforts to include more than just an international market building initiative. Given the constrained international environment for Haitian products, a more opportunistic approach needs to be taken with regard to identification of marketing possibilities, and all reasonable alternatives need to be explored. For instance, the Ministry of Agriculture reports that farmers in the Cap Haitien area selling are coffee to a Port au Prince exporter, Novella, for Gs12 per lb.

5. Impact on the Coffee Sector.

The Coffee Rehabilitation Project, although limited in its geographical scope, has made significant impacts on the social, economic, and environmental fabric of Haiti. Coffee is an important element in farming systems throughout Haiti. It is not only a cash crop, but it often represents the farmer's only liquid asset. The organization of coffee planters into producer groups and associations by the PPK has provided a basis for the institutional restructuring of the sector from the bottom up.

The transfer of responsibility for development of the coffee sector to the producers themselves is underway in the PPK zone. This is being done through the organization of grass roots farmer associations which embody at least the seeds of democratic decision making and organizational principles. It must be remembered, though, that Project activities directly affect only a little over 3% of coffee farmers in Haiti, and considerable work remains in consolidating the acquisition of those competencies which farmers must have in order to run their own affairs.

PPK has made considerable progress in enabling groups to access and manage essential production technologies, inputs, and financial services. All other things being equal, improved cultural practices and new production technology are the quickest and surest paths to increased farmer incomes. In a sense, marketing and processing activities distract farmers' attention from the essential business of production. Nevertheless, efforts are also underway to enhance farmers' ability to affect prices they receive through improvements in quality. Continued progress in this area depends to a large degree on forces outside the control of farmers or their associations. Coffee marketing in Haiti is, and will probably continue to be, dominated by a few export firms which will be able to exert considerable control in the industry.

An additional impetus for continued support to the coffee sector is the influence it has on Haiti's environmental stability and natural resource base. Coffee trees are estimated to make up 50% of the remaining forest cover in Haiti. The PLUS Project lists coffee as its most frequently demanded reforestation stock, equal to 23% of all tree species seedlings distributed to participants. Many of the other species distributed by PLUS are planted in association with coffee as shade crops.

Coffee plots hold soil and moisture on the steep slopes characteristic of Haitian agriculture, while land next to them in annual crops is quickly eroded (see Table II, below). The farmers of La Montagne point to the bare surrounding hills and say that every tiny patch of trees that can be seen is a coffee plot. Thus, any future natural resource management and land use planning efforts by USAID must consider coffee an integral component. Indeed, this is a logical next step, moving away from crop specific and sectoral approaches to the broader impact strategies implied in locally managed land use planning.

C. MONITORING AND EVALUATION, STUDIES, AND CONSULTANCIES.

1. Monitoring and Evaluation.

An independent monitoring and evaluation activity was designed for the Project, using non-project funds and managed directly by PADO. The local consulting firm, Turbo Systems, Inc., is executing the monitoring and evaluation activity. A questionnaire geared to the project SPIs will be administered to an unstratified random sample of 120 farmers in the Project area. Turbo has completed all steps involved in fielding the surveys on schedule and to the satisfaction of USAID. Field data gathering has just begun.

Responsibility for administering the surveys in the field rests with PPK. Project personnel execute the questionnaire at the farm level under the guidance and supervision of Turbo. The questionnaire is exhaustive. It will provide information on all 22 of the SPIs. It was noted, however, that the questionnaire is 24 pages long! Farmers will undoubtedly patiently put up with the posing of hundreds of questions, but it would be advisable to find a way of streamlining monitoring and evaluation questionnaires in the future.

Information from the Project monitoring and evaluation activity was unavailable in time for the present evaluation mission. If all goes as scheduled, there should be no such problem with the final evaluation. The information currently being gathered is expected to add precision to estimates as to project costs and benefits. It is strongly suggested, however, that USAID request accelerated reports/briefs on a number of key parameters. The following subjects represent a "short list" of priority issues on which USAID needs immediate information:

- Inventory of private and Project nurseries in the Project area, and the economic rate of return for each;

- Farm budgets and typologies including non-project/non-coffee, non-Project/coffee, direct beneficiaries, and indirect beneficiaries. Presentation of these budgets should be in a form similar to that used in Table 1, pg. 11;

- Transportation costs, particularly as they relate to marketing of parchment produced by Project funded washing stations and input supply operations;

- Market price information at farm gate, intermediaries, Port au Prince, and point of export for coffee **and three or four other principal commodities.**

- Economic rates of return *(taux de rentabilite)* for association managed processing stations;

2. Short Term Consultants.

The project has utilized a number of consultants to provide periodic advice on certain key

elements of Project activities. A large share of short term consultation work has been spent on developing a marketing strategy. Unfortunately, not much of this work has had the results foreseen. The primary problem has been that subsequent short term consultants disagreed with the findings of a study done in May, 1993 by Jimenez Castro. A lot of time has been spent trying to refute his findings. However, the basic conclusions and recommendations of his report seem to have been a perfectly adequate foundation for the development of a marketing strategy.

A study of the advantages and disadvantages of washed versus natural coffee, finalized in March, 1994, seems to be largely an academic exercise. The criticisms of the previous Jimenez report were overdrawn. Moreover, the economic analysis used in the report was done using a format that was extremely difficult to understand. The "Budget of Substitution" methodology is not a commonly used technique for analyzing the opportunity cost for shifting from one technology to another. Some sort of comparative farm budget analysis would have been easier to understand and would have provided more usable data.

An entity called Specialty Coffee Consultants is currently working on developing a niche marketing strategy for PPK produced washed coffees. The effort was undertaken too late to affect the sale of coffee processed this year, but hopefully there will be some results by the next harvesting season. In any case, PPK has engaged a consultant to work part time to assure coordination of the project's marketing strategy. The impression remains, nevertheless, that this strategy is almost completely focused on developing a niche market.

There are a couple of dangers in this approach. Primarily, if PPK associations are too closely tied to only one option they will be in a situation that is potentially worse than that they were in before. Failure of this initiative would be an enormous disincentive to continue producing higher quality coffee. Even if the initiative is successful, it will take time to work out all the logistics of such a direct marketing approach. Project efforts would be better utilized by keeping an open mind about various kinds of potential buyers.

Coffee Production.

A. AGRONOMIC CONDITIONS IN THE BEAUMONT COFFEE AREA

The Beaumont area and its surroundings are located at an altitude ranging from 400 meters above sea level (m.a.s.l.) up to 1400 m.a.s.l. It has an average temperature of 25 degrees celsius. and the average rainfall is 1400 millimeters. The Beaumont area has a total coffee production of 60,000 to 75,000 one hundred pound bags of green coffee. The average farm size is 1.5 hectares. There are currently 10,000 hectares cultivated with coffee.

The condition of the adult *indigene* trees in most older plantations is bad since they have had little or no management. The old trees have been planted in a haphazard way, and the competition for light among older trees makes them grow thin stalks causing the bending of the trees and the appearance of new shoots, increasing competition still further. New trees grow below the old ones but do not develop properly because of the competition for sunlight and space. Only in very few cases are people thinning some old stands and replacing them with new stock. In addition, it is important to realize that Beaumont production comes from the tips of the old trees, and that no evidence of pruning was seen in most plantations.

In some cases producers in the Beaumont area are having troubles with rat attacks to their coffee trees. This is said to be an old problem and one that is hard to solve. The rats apparently climb the coffee trees and bite the branches until they cut them off the trees. The rats suck the mucilage that surrounds the ripe coffee seeds and spit out the seeds and parchment. A sign that rat attacks to coffee is an old problem is that all the volunteer plants that grow below the adult coffee trees are called "rat coffee" (kafé rat). Although the use of poisonous traps was recommended, the local agronomists were not eager to use them because of the danger that practice could represent to humans.

1. Production of Planting Materials.

The Evaluation Team visited several nurseries planted with seedlings two and a half months before. The nurseries exhibited good conditions and no weed problems were detected. Planting bags are being used for the establishment of nursery stock. There are three bags across the rows with empty spaces of 40 centimeters between rows, which is wide enough to allow activities such as weed control, spraying, etc. to take place inside the nursery. This system also promotes good growth of the plants by not creating competition for light among them.

Groupements are doing direct planting of the coffee seeds; they are not making seed beds. Direct planting demands more work than seed beds and does not allow the nursery man to choose the best seedlings, that is, those having better growth, root system and plant development.

PCNB (Penta-chlorine-nitrobenzene) is used for soil treatment and control of diseases such as Rhyzoctonia and Fusarium which attack seedlings in the nursery stage.

The plastic bags in which the seeds are planted are properly covered with banana leaves to conserve moisture and to regulate temperature conditions to favor seed germination. This practice would be much easier if it took place in seed bed where coffee seeds could be kept for two months before being planted in bags.

The nurseries consist basically of a flat, two meter high palm roof which is designed to let a certain amount of sunlight penetrate and to reduce the impact of raindrops on coffee seedlings. The soil used to fill the bags was in most cases clayish. Usually a little fertilizer is added shortly after germination. Applications of Diazinon (insecticide) are regularly made to control grasshoppers.

The seeds used by the farmers have been provided by IICA. They are purchased from the Dominican Republic and Thiotte. Most of the seeds planted were growing well and at the time of the visit only a very small percentage had died, although they still have a long way to go.

Plants are transplanted to the fields after six or seven months in the nursery. This time period has to be reconsidered since the younger the plants when transplanted the more they will suffer from competition with weeds. It is important to keep in mind that these seedlings should be transplanted to the fields at the beginning of the rainy season in order to promote optimum growth and avoid any risk of lack of water.

Many of the nurseries visited were raising Caturra; the rest were Catimors, as can be seen in Table 1, which shows the amount of seeds bought by IICA from August, 1993 to January 1994.

Table 2: Coffee seeds bought by IICA

VARIETY	POUNDS PURCHASED	PERCENTAGE	SOURCE
Catimor	1 263	32.66	Haiti-Dom. Rep.
Caturra	2 249	58.08	Haiti-Dom. Rep.
Catuai	360	9.26	Haiti-Dom. Rep.
Grand Total	3 872	100.00	----------

Source: IICA Progress Report for the Coffee Revitalization Project.

2. Agronomic Performance of New Varieties.

In one of the farms visited in Nan Canal, the team saw some six month old, 15 centimeter-tall plants intercropped with banana and citrus. Beans and maize had also been planted in the "empty spaces." The coffee plants condition was not good; they were being attacked by Cercospora. This becomes a bigger problem when plants are completely exposed to sun and when not enough (or no) fertilizer has been applied. The plants had already lost many leaves.

The cropping system used by PPK advises planting coffee seedlings at a distance of 2 x 2 meters, bananas at a distance of 5 x 4 meters and citrus at intervals of 10 x 10 meters. This growing arrangement allows for 100 citrus trees, 500 banana plants, and 1,900 coffee trees per hectare.

One plot visited in Beaumont had some four year old Caturra trees in production. The condition of these trees was very good and shows what the PPK project could have accomplished if it had not been suspended for a year and a half.

3. Processing.

Going through the producers' parcels allowed the Team to see traditional processing of "natural coffee." The coffee beans are dried and then pounded to remove the dry shell. The women then sell this "cafe coque" in the local markets. In all cases it was obvious that the good quality that had been produced in the field is spoiled by these practices.

Another practice that spoils coffee quality is picking unripened (green) fruits, in which coffee flavor has not quite developed. The Team was informed by the PPK agronomist that traditional picking practices can cause the harvesting of up to 80% of unripe fruits regardless of the season: initiation, peak season, or final harvesting. The resultant mix of ripe and semi-

ripe cherries is sun dried to produce "natural" coffee. Natural coffee is then sold directly or stored in bags for sale later when cash needs occur. Fruits picked in this manner, even when well processed, still give the cup their typical sour taste.

The team visited several wet coffee processing plants and was able to see a variety of stored coffee samples and different batches of coffee being dried on cemented slabs. Even taking into account that the *indigene* bean is one of the biggest among the arabicas, beans in the Beaumont zone have an excellent size. Most of the coffees inspected had been very well washed, but in many cases they had not been properly dried. In some of the stored coffees a smell of humidity (fungus) was perceptible.

A brief description of the processing ratios of coffee, and the various parts of coffee from the cherry to the green stage is given in Annex II.

4. Use of inputs.

Though fertilizers are used sparingly in Beaumont, primarily because of the price, it is recommended that applications be made only on newly transplanted seedlings. Mulching and organic fertilizers such as the pulp discarded from coffee washing stations should be used on older trees. The project estimates local demand for fertilizers for all crops in the Beaumont area at around 1,200 one hundred pound sacks per year. Sprayers and fungicides are not yet being used.

5. Training Program.

PPK is using a "cascade" training methodology. The two regional agronomists train their regional assistants; these regional assistants train their extension agents who, in turn, train their rural technical assistant. The latter are always coffee producers of the zone and are democratically chosen.

The following flow chart shows how cascade training takes place from the staff down to the producers.

Staff (Central Offices)	Regional Officers	Extension Agents	Technical Rural Assistants	*Groupements*

The training system is working very well and we believe that involving farmers of the zone in this extension service is a key element of the project's success.

B. AGRONOMIC CONDITIONS IN THE JACMEL COFFEE AREA

The Project works in three zones in the Jacmel area: Cap Rouge, Macary and Fonds Jean

Noel. The zone of Cap Rouge and its surroundings is located at an altitude of 500 to 600 m.a.s.l. and has an average rainfall of 1,800 millimeters and a population of 10,000 inhabitants. The zone of Macary and its surroundings is located at an altitude of 900 to 1,200 m.a.s.l. and has an average rainfall of 2,800 millimeters and a population of 12,000 inhabitants. In this area the PPK project has 6 farmers associations and 327 *groupements* for a total of 3,300 members.

As in Beaumont, PPK is promoting the use of coffee varieties such as Catimors, Caturra and Catuai. The number of plots covered by PPK extension activity is 2,975 with an average size of 0.20 hectares per plot for a total planted area of 310 hectares, including replacement of dead and exhausted trees in older plantations.

The condition of old coffee plantations in Jacmel is thus better than those of Beaumont and more production per hectare should be expected for the next harvest in the zone of Jacmel that in the zone of Beaumont. The density of the shade trees is also higher and very well managed in Jacmel.

Although information about the soils of either of the two areas is not available, it is easily perceptible that the soils of Jacmel are much deeper than those of Beaumont, although in some cases they may have the same slope conditions. The soils of the Jacmel coffee area seem to be Alfisols or Ultisols (U.S.A. soil classification), that is, very old soils, low in bases, heavy textured and very well structured, and somewhat less subject to erosion than those in Beaumont.

1. <u>Production of Planting Materials</u>.

There are over 300 Project nurseries in this zone, and they have produced 1.4 million plants since 1990. The present situation of the nurseries is very good. A few seedlings had died because of *Rhyzoctonia*, although the growers had made preventive applications of P.C.N.B. The disease can still appear when not all the soil in the planting bag is properly treated with the product or when new soil without treatment is added to the bag.

The *groupements* keep a record sheet of their practices in the nurseries. Among other things, they registered three applications of Diazinon to the two and a half months old coffee seedlings in order to control grasshoppers. The team agronomist recommended not using insecticide unless a significant infestation was detected.

One of the nurseries visited had six month old plants in very good condition, although a few *indigene* seedlings were seen, growing in the same bag with Caturra. This situation reveals the fact that the growers are not using pure seed and adds to the strong difficulty establishing parcels having a single variety. Suggestions were made to get rid of the *indigene* seedlings while they are in the nursery stage, rather than waiting to do it when plants are in the plantations, where the decision is harder to make.

2. Phasing out of Subsidies on Seedlings.

In both Beaumont and Jacmel, association members are currently paying 17% of the price of seedlings while non-members are paying 33%. Farmers were used to not paying anything for the seedlings and other goods they received through projects. Making them pay part of the cost is designed to create a stronger commitment to the success of the planting material in the field.

Phasing out all subsidies in the production of planting materials by PACD is not likely to have beneficial effects. There would be a high risk of not selling the seedlings and not accomplishing planting goals. A more measured approach to lifting subsidies or reducing production costs should be worked out by PPK. This approach might include making sure farmers understand the value of the new seedings, making them aware of the full cost, and having them discuss and develop a schedule of price increases. We suggest the price of seedlings be increased in July, 1994 to 30% of the full cost for association members and 50% for non-members. Then, small increases can be made at six month intervals until the full price is being charged.

3. Agronomic Performance of new varieties.

Some of the two and four year old coffee plantations which were visited exhibited very good growth performance. In all cases the Team found different varieties growing together in the same plantation. One of the parcels visited was composed of a Catimor progeny that was brought by the former PPK Director. The coffee was badly attacked by Mycena citricolor and different genotypes were growing in the same plot. The team agronomist was asked whether they should produce seeds from such material; the answer was obviously negative.

One of the parcels visited in Macary was that of a grower who has two and four year old plants of Catimor T-5175. The general condition of the plants was excellent. This farmer was culling new indigene plants where he has planted Catimor, however this practice seems to be the exception rather than the rule.

Again, as in Beaumont, rust infestations were noted on Caturra and Catuai trees as young as two years old. Although, rust can be diminished with appropriate management of coffee plantations, pruning, weed control and application of fertilizers, chemical control cannot be avoided. Caturra and Catuai varieties have been successful in other countries where rust is present only when several copper opportune applications are made during the rainy season and where very few or no shade trees are used in the coffee plantations. Both of these actions are incompatible with the farming system practiced in Haiti.

Where possible new highly productive and rust susceptible varieties released by the Project should be treated with the following products. When rust infestation is under 15%, protective fungicides such as copper oxides (Copper Sandoz, MZ), copper hydroxides (Kocide-101, Cuprox), copper oxichlorides (Cobox) and Copper Sulphate (Cuproxat) are used to control it. When infestation is over 15%, systemic fungicides such as triadimefon (Bayleton 25% WP), propiconazole (Tilt 250 CE), Ciproconazole (Atemi 100 SL), and hexaconazole (Anvil 50 SC) are recommended.

These recommendations are for highly productive plants, and should not be used in 20 year old coffee plantations where very little production is expected. Again, the best solution for the coffee rust problem in Haiti will be the systematic replacement of old or infected stock with genuine rust resistant varieties (Catimors).

4. Processing.

The design used in the processing units in Jacmel is better than that in Beaumont. Units in Jacmel have two No. 6 depulpers with higher capacity than the units in Beaumont. This design facilitates the process by eliminating sieves. Any pulp residue that passes through the machines is removed by hand.

The processing units in Jacmel are also equipped with small sheet metal storage sheds along the drying terraces where workers can take the coffee at night or in case of sudden rains. This makes it easier to not mix batches of coffee at different drying stages, as happens in some areas in Beaumont where they have to quickly sack the coffee when rain threatens.

In the APKF association's processing plant in Fonds Jean Noel they were working with freshly harvested coffee cherries. Most cherries were being processed in a good stage of ripening but were being mixed with overripe (already fermented) cherries. This can easily be remedied by doing a simple hand classification of cherries and depulping the two batches separately.

5. Secondary beneficiaries.

In order to get some idea how PPK is perceived by secondary beneficiaries, the Coffee Team visited the zone of La Montagne, near Jacmel; there it had a meeting with around sixty coffee growers who were quite familiar with PPK activities.

Some of them had already visited the area of Cap Rouge to talk with PPK primary beneficiaries and were shown how to produce seedlings in the nurseries. When they were asked how many of them heard the PPK's radio broadcasting, most of the farmers present said they had.

Although La Montagne is at relatively low altitude, the soils are very good for growing coffee.

The extension service in the area is provided by the Ministry of Agriculture. It has sponsored exchanges with PPK, and a collaborative relationship has developed between the two agencies. This is a good example of how these two institutions (IICA and the Ministry of Agriculture) can work together. It is important to get the Ministry of Agriculture much more identified with the PPK project. Since PPK is virtually the only organization working in the coffee sector with any kind of operating budget, it represents the only way the ministry can get feedback on the performance of new technologies in coffee production.

C. COFFEE CULTURE AND SOIL AND WATER CONSERVATION

Coffee, as a perennial tree, has proved to be a great help to the preservation of the vital agricultural elements of soil and water. The following information from Brazil and Colombia illustrates the role played by coffee in soil and water conservation.

Table 3 - Soil and water loss in coffee plantations **without shade trees**, and in other crops **(annual average)**

CROPS	Eroded Soil Tons per Hectare	Water Loss % of rainfall
Forests	0.002	1.2
Grassland	1.0	1.4
Coffee plantation	1.9	1.6
Cotton field	34.0	6.1

Source: Suarez de Castro, Advances in Coffee Production

Technology.

Table 4 - Soil and Water Loss in Coffee Plantations with shade trees and under different types of soil management

Crops	Types of Soil Management Eroded Soil Tons per Hectare	Water Loss % of Rainfall
Woods	0.1	2.5
Grassland	6.7	18.0
Old Coffee Plantation	0.4	3.0
Young Coffee Plantation	6.5	8.2
Bare Soil	312.4	60.0

Source: Suarez de Castro, Advances in Coffee Production Technology.

It is very clear from the two tables that coffee production has a direct correlation to diminished soil loss, even when no shade trees are used. When shade trees are used in coffee plantations, soil losses are much smaller.

It is also clear from the two tables that water loss in coffee plantations is diminished. When shade trees are used water retention is comparable to that of wooded land. Soil and water loss are obviously greater in new coffee plantations because, at that stage, very small areas are really covered with coffee trees.

Annual crops such as beans and maize leave the soil bare for several months a year. Such conditions are reflected in the second table above where extreme losses of soil occur. This fact reinforces the recommendations of the PPK and the PLUS Project to grow coffee in an inter-cropping system as a way of preserving soil. Intercropping allows the farmer to receive a revenue stream from the plot in the years before coffee reaches full productivity.

D. IMPACTS OF THE TECHNICAL PACKAGE.

The PPK technical package recommends that coffee seedlings be planted at a distance of 2 x 2 meters, bananas at a distance of 5 x 4 meters, and citrus at intervals of 10 x 10 meters. This growing arrangement results in 100 citrus trees, 500 banana plants, and 2,000 coffee trees per hectare.

The intercropping system has been very well conceived. It not only promotes soil and water conservation, but it also gives farmers short, medium, and long term income options. This system can provide a regular production of 1,200 pounds of green coffee after the fourth year. The average green coffee production for Beaumont and Jacmel in very high density farms (with strong competition among plants) is 586 and 558 pounds per hectare respectively, according to IICA's baseline study.

For those farmers growing Caturra and Catuai cultivars, the use of sprayers for fungicide applications is recommended. These 20 liter sprayers cost, in Port-au-Prince, US$75 each. The cost of a pound of copper hydroxide is US$5, and three applications per year make 5 pounds per hectare per year. The total cost is equal to the selling price of 193 pounds (7.25 Gs. per pound of washed coffee) of washed coffee for the first year. With appropriate management, the sprayers can be used for five years with only replacement of small parts. Fungicide stickers (adherents) and labor costs are not considered.

Some successful producers will be able to invest this amount of money. The small ones can probably do it only through their associations.

E. SUMMARY OF AGRONOMIC FINDINGS.

1. The PPK Project was initiated in March, 1990 with a project assistance completion date (PACD) of February 28, 1995. It was suspended in October, 1991 and reactivated in February, 1993. Taking this important time loss into account and looking from the agronomic point of view, the PPK will not reach sustainability by PACD. It is important to recall that it takes three years for a coffee plant to start producing. The producers will always hesitate to replace old plants with new ones until they have observed the Catimors' and Caturras' development and production.

2. The goal of increasing production and income with the use of new varieties has been achieved in those few cases of farmers who planted high yielding varieties at the beginning of the PPK project.

3. A total of 3,782 pounds of coffee seeds were purchased and have been planted in Project nurseries, and have produced 1,600,000 seedlings two months old and 783,000 seedlings seven months old. **Those seedlings are in a very fragile stage and will continue to need lots of care before they become productive; that is, at least one and a half years after PPK's PACD for the first group and one year for the second group.**

4. Association members are paying 17% of the price of the seedlings, while non-members are paying 33%. Although subsidization of planting materials should be phased out, it is not feasible to eliminate it entirely by PACD. This would give too much risk of not selling the seedlings and therefore not having them planted.

5. Sixty-seven percent of the seedlings are either Caturra or Catuai, that is, rust susceptible and high yielders. Unless farmers are taught and equipped to do copper spraying to control rust, their use will not be a long term solution to the rust problem.

6. PPK agronomists must be trained to distinguish among the coffee genetic materials used in the PPK project, that is, among Caturra, Catuai, Catimor T-5175 and Catimor T-8660. However, for a sustainable activity PPK should not import or produce any seeds of Caturra and Catuai since they are completely susceptible to the coffee rust Hemileia vastatrix.

7. Twenty year old coffee trees should be substituted over a four year time span (25% a year). No reason is seen for either spraying or fertilizing already exhausted old trees, where correct agronomic practices cannot be used because of the high densities of trees. This gradual changeover will require farmers to manage trees of different ages and practice differentiated pruning to have sustainable production.

8. Coffee cultivation under shade trees has proved be an excellent water and soil preserver. The PPK technological package is well oriented to preserve soil, however, other trees like Inga vera should also be considered.

9. The intercropping system has been very well conceived within the technical package. It not only promotes soil and water conservation, but also gives farmers short, medium, and long income. This system gives growers income all year round, which makes it more sustainable.

10. The wet coffee processing plants are basic to production of quality coffee. Although a few minor changes were suggested by the Team, the units are well designed and are easy to operate. The delays in constructing these processing units reduced the amount of coffee that could be processed in the 1993-94 season.

11. More hand operated depulpers, as well as thick black plastic sheets, should be made available at cost to PPK farmers and their associations so they can do wet processing (depulping, washing and drying) of the coffee they are already producing. By so doing, producers will be improving their coffee quality and getting more income for their coffee.

12. The training through agricultural extension is working very well, and we believe that preparing farmers of the zones to carry on this process is a key element for the success of PPK.

13. More training has to be done in processing techniques, particularly in drying and storing.

14. The PPK project should be extended at least one and a half years to ensure the project's sustainability, after which its functions should be continued under other arrangements.

Marketing.

A. EVOLUTION OF A MARKETING STRATEGY IN THE COFFEE PROJECT.

1. Project Design and Modification.

When the Coffee Rehabilitation Project began in 1990 it was clearly focused on improving the production of coffee. Inadequate attention to marketing issues was seen to be a shortcoming. Market testing washed coffees from the Project area in the state of Pennsylvania revealed that a profitable niche market could be developed for Haitian coffee.

In its redesign proposal in 1992, IICA proposed modifying the role of marketing in the project. It proposed that market development in the USA be discontinued and that training and technical assistance in harvesting, post-harvest handling, and processing be increased.

In September, 1992, it was recommended that the project focus on the following:

- Propagating high quality coffee that could command high prices in international markets.
- Improving production techniques to obtain higher yields, sustained increases in productivity and higher incomes to farmers.
- Improving harvesting and post-harvest handling to prevent deterioration of the quality of the coffee.
- Incorporating a marketing component that emphasized reorientation toward high price niche markets, probably in Europe and East Asia.

It was also recommended that the project continue obtaining information about foreign niche markets and buyers, include information about coffee prices in radio broadcasts, exhibit top quality Haitian coffee in at least one fancy food show each year, and do only the minimum necessary to maintain registration of the "Haitian Coffee Creole" name in the USA.

The redesigned project continues its focus on improving coffee production. Its modified purpose is essentially to improve quality. The grantee was expected to do the following with regard to marketing:

- In conjunction with agribusiness firms, develop market-oriented approaches for the provision of coffee production and processing inputs and the sale of premium quality mountain grown beans.

- Extend improved coffee harvesting and processing techniques to farmers.

- Assist farmers to establish and operate small coffee processing units for washed coffee.

- Assist farmers through their local organizations to develop the capacity to deliver consistently high quality beans to buyers and/or exporters.

- Facilitate market linkages between exporters, producers, and processing centers for the sale of high quality coffee beans.

- Identify and develop niche markets for premium quality coffee both locally and abroad and facilitate development of seller-buyer relationships to stimulate greater exports of select Haitian mountain grown beans.

These tasks were to be done, in part, by forming a network of farmers organized in groups and producing high quality coffee, setting up a dependable distribution system of private traders and exporters, establishing manual processing units run by associations of farmers groups, developing linkages with international coffee roasters, doing test marketing in Europe and Japan, organizing exhibits of Haitian coffee in selected countries, and setting up a farm gate price incentive program that rewards producers for better quality coffee.

Outputs to be achieved by the marketing component include establishing a network of high quality coffee producers, a local marketing network for the sale of quality coffee, and a gourmet line of coffee for niche markets in Europe, Japan, and ultimately the USA.

2. Progress Toward and Potential for Achieving Marketing Goals.

The strategy adopted by PPK to achieve its marketing goals consists mainly of constructing small processing units with hand operated depulping machines. Fourteen of these have now been constructed and will be in use during the next harvest. While the designs differ somewhat, the units observed are adequate for producing high quality washed coffee.

The Project Paper Supplement calls for producing 120,000 kilograms of high quality coffee beans by PACD. Although the project will not reach this target, partly because of the suspension of activities, it will result in production of a sufficient quantity to have a measurable impact on farmers' incomes.

A few bags of the washed coffee have been sold to date, however, approximately five tons of parchment coffee are reportedly in associations' inventories and approximately three times that amount may be available before the 1993-94 season is over. In the Beaumont area, this coffee is being brought to a central warehouse operated by the project where it is separated by association, humidity can be controlled better, and buyers can pick it up more easily. **It is critical that this coffee be sold before it deteriorates and before the processing plants' loans come due.**

The break-even point for the small processing plants is calculated at about 44 pounds of parchment per day, as the analysis on the following page shows:

BREAK EVEN ANALYSIS FOR PROCESSING UNIT[1]

Selling price of 1 lb. of parchment coffee		Gs7.80	
Purchase price of 5 lbs. of coffee cherries, Gs7.0 Makes 1.2 lb. parchment, so divide by 1.2		5.83	
Gross profit per pound of parchment coffee		Gs1.97	
Less variable costs per pound:			
Labor & management, Gs35 / 50 lb./day[2]	Gs0.70		
Sacks, less resale, Gs7.5 / 100 lb.	.08		
Transportation to PAP, Gs15 / 100 lb.	.02		
Misc. supplies, Gs500 / 3,750 lb.	.13		
TOTAL VARIABLE COSTS PER POUND			0.93
Contribution to fixed costs and surplus		Gs1.04	
Fixed costs:			
Miscellaneous equipment		Gs500	
Rubber boots		864	
Depreciation		1,500	
Interest on loan		466	
TOTAL FIXED COSTS			Gs3,330
Lbs. needed to break even, 3,330 / 1.04		3,279 lbs.	
Pounds per day to break even, 3,279 / 75		43.6 lbs.	

Profitability analysis (at 50 lb./day, 75 days/season):

50 X 75 = 3,750 pounds per season.

3,750 X 1.04 = Gs3,900 contribution.

Less fixed costs, 3,330, = Gs570 surplus.

570 / 14 = US$41 surplus.

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[1] Figures used are from the technical annex to the *Protocole d'Accord* between IICA and HDF.

[2] Production of 50 pounds per day is based on one association's estimated capacity of its drying

slab. Use of this rate makes this analysis conservative. A projected balance sheet in the technical annex mentioned above assumes production of 200 pounds per day and a ratio of 5 pounds of cherries to 1.3 pounds of dried parchment. It assumes the association uses contract processing and direct exporting, and it arrives at a surplus of $202.36 per season.

Before project activities took effect the price for *cafe naturel* was very low, as low as Gs2.50 per *marmite* in 1989 according to the baseline study. Adjusted for inflation, this is the equivalent of Gs5 per marmite at today's prices. Project farmers are now being paid about Gs.6.5 per pound for *cafe naturel.* Thus, the price to them has increased.

Most project farmers are being paid seven Gourdes (Gs7) per *marmite* (about five pounds) of coffee cherries for processing. A 4 liter *marmite* will produce about 1.2 pounds of dried parchment coffee, at 12% humidity. Thus, farmers are getting about 8% more money for coffee delivered to washing stations than they are for *cafe naturel.* In some cases farmers expect to receive rebates (*ristournes*) of up to Gs1.50 per *marmite* if the coffee is exported profitably.

The parchment coffee observed in the field seemed to be very high in quality except that much of it was too moist. Moisture in bagged coffee, with little ventilation, causes the product to deteriorate. There is equipment in the project office to measure moisture content, but apparently it is not being used.

This test equipment should be moved to the field offices in Jacmel and Beaumont and used regularly to test samples of coffee (we understand there are now plans to move a unit to Beaumont). Also, farmers should be taught how to estimate moisture content from the look, feel, and sound of dried coffee. Battery operated humidity meters exist but these are somewhat expensive and must be recalibrated often.

B. ESTABLISHMENT OF A MARKETING STRATEGY.

1. Distribution and Specialty Markets.

The PP Supplement clearly states that linkages should be established with existing exporters and international coffee roasters, that a Haitian specialty coffee should be tested in the U.S. and other markets, that Haitian coffee should be exhibited abroad, and that producers should be rewarded for producing higher quality coffee for this marketing channel.

Exporters profess disinterest in handling the washed coffee from the Project. They do not think volumes will be large enough to interest them or that quality will be uniformly high. These exporters are used to marketing coffee as a commodity and do not have contacts in the specialty coffee trade. The one exporter which showed early interest is COHAN, a Dutch NGO that ships to Max Havelaard in Holland.

COHAN, an alternative (not-for-profit) exporter, has already purchased a small amount of coffee from a PPK association in the Jacmel area (Cap Rouge) and is aware of the supply situation in Beaumont. It has plans to buy coffee from the associations after the next harvest. COHAN ships 5,000 bags of coffee a year and is looking for more. Its marketing strategy is based on developing direct relationships with the associations from which it buys. To improve quality it is purchasing a portable unit to be used for supplemental drying of coffee, which can be moved to difficult to access areas like Beaumont as needed. COHAN provides transportation from point of purchase to Port-au-Prince.

COHAN mixes coffee from PPK associations with other Haitian washed coffee. It is not placing a distinct PPK coffee into a niche market and is not selling a branded product. It is, however, selling to a Dutch importer who maintains the product's identity as Haitian washed coffee. Since COHAN can reportedly sell green coffee to Max Havelaard at US$1.25 per pound (about Gs18), there should be enough margin to allow the payment of rebates to farmers.

The following cost estimates, on which the statement above is based, represent a **possible** scenario based on cooperation with COHAN. If COHAN can increase volume above the current level of 5,000 bags of green coffee per year, its cost per pound should decrease and the price it can pay for parchment coffee should increase.

Received by COHAN (per pound of green coffee)		Gs18.0
Less COHAN cost and overhead (US$0.17/lb.)	1.3	
Inland freight and miscellaneous (est.)	2.0	
COHAN purchase price (Gs7.8, X 1.2 for conversion from parchment to green coffee)	9.4	
TOTAL COST		Gs12.7
COHAN's Margin	Gs 5.3	

Around six months ago a U.S.-based coffee entrepreneur began working as an international marketing consultant. He recently presented the outline of a marketing plan for Haitian specialty coffee and took samples to the U.S. for cup tasting. The results were excellent. All coffees cupped were very similar. The coffee was judged rich, sweet, and medium bodied with good acidity and exceptional balance The flavor profile was very much like that of "Blue Mountain" coffee from Jamaica.

The consultant will exhibit coffee from the PPK area this month at the American Specialty Association Coffee Show in Houston, Texas. The product is now clearly identified as a distinctive, washed, arabica coffee produced by small farmers in Haiti. The market for such a special coffee, however, has not been so well defined.

Income to farmers might be increased if this so called "Haitian Bleu" can successfully be sold as a high quality specialty coffee and if all the steps in processing and marketing are performed competently and honestly. Suppose, for example, that "Haitian Bleu" coffee beans were to be sold in European stores for US$10 per pound. While this may be hard to achieve, it is possible; a 1992 report by Kenneth Weiss stated that U.S. retail prices for specialty coffee beans ranged from $6 to $30 per pound. The Haitian exporter should be able to get about 1/5 of the retail price, or $2.00 (Gs28) per pound. This would enable the exporter to increase the price paid to farmers.

Too little attention has been paid to distribution channels for washed coffee. It appears there were too few contacts with existing exporters and too little follow up with the international marketing consultant in the six months after his first trip to Haiti. One result is that, at the present time, there is parchment coffee ready for marketing in Beaumont and no decision has been made as to where or how it will be sold. The farmers are relying on PPK to help them.

2. **Transportation.**

Transportation is also a serious obstacle. The coffee must be carried down from some areas in Jacmel and Beaumont by mule or horse. This adds to the cost (Gs. 15-25 per bag to rent an animal) and is risky because of the possibility of rain. There are reportedly only two large trucks based in the town of Beaumont, and the number of trucks coming from other areas is very limited because of the cost of fuel (strongly affected by the embargo). Also, freight rates have increased dramatically due to the embargo. A Port-au-Prince exporter will have to be persuaded to send a truck to Beaumont and is not likely to do this unless the volume of coffee is adequate. Otherwise, the beans may have to be carried to Port-au-Prince in PPK vehicles.

Coffee from Beaumont can be shipped to Port-au-Prince by boat from Jeremie, but then it would be subject to damage by rain, salt water, and contamination from other cargo.

An additional transportation problem is that parchment coffee is about 20% heavier and 100% bulkier than *cafe naturel.* Thus, one is paying to ship parchment, as well as air between the shrunken (dried) coffee bean and its parchment skin.

Because of the embargo the U.S. market remains closed to Haitian coffee, and there is reportedly pressure on Japan to not buy either. Transportation to Port-au-Prince is hard to obtain and expensive. Fuel to power the equipment for milling parchment into green coffee is expensive, and international transportation is scarce. There is reportedly only one shipping line, Antillean, that operates on a regular schedule. It can move coffee to Europe by transshipping on another Caribbean island, but this increases both cost and transit time.

3. **Training and Market Information.**

Most small farmers feel marketing and processing distracts them from the real business of producing. Farmers who are producing specialty coffee, however, need to be involved in all

aspects of their business. This includes participating in making decisions that affect their selling prices, which in turn impacts upon their profitability.

Therefore, small farmers should be trained in marketing. Some training has been done in the importance and methods of quality control. This is closely related to marketing because providing a product that consumers want to buy is a major marketing function. Farmers interviewed had a fair understanding of the importance of producing a consistently high quality product and of how to do it.

Nevertheless, farmers, are not aware of other aspects of marketing such as market definition, planning and forecasting, distribution, promotion, and transportation. Of course, they are well aware of the importance of selling at a high price and getting paid.

In a memorandum dated 3/2/94, the local marketing consultant made known his intention to train representatives of the associations in marketing. The stated goal was to prepare association representatives, who would form a marketing committee, to oversee marketing activities and participate in making decisions. The consultant who prepared this memorandum, however, no longer works with the project.

For farmers to become full participants in the coffee industry, they should be aware of international as well as local supply and demand, prices, and trends. Association leaders should know how to work back from prices in importing countries to the amounts they can expect to receive. This knowledge can be imparted by on the job training as a number of export sales are made and analyzed. Of course, the relationship between market prices and producer prices will vary with the type of distribution channel used.

This project should include a small scale market information system directed at farmers and their associations. The system would convey information through the PPK hierarchy and by radio broadcasts. It will help increase transparency of the marketing process and increase the ability of farmers to respond to market signals.

C. PROVISION OF AGRICULTURAL INPUTS.

1. Establishment of Farmer-Managed Input Supply Stores.

Associations have begun providing agricultural inputs to their community by means of small stores established and managed by association members. These stores are set up through loans obtained from HDF (see below). Three agricultural input stores are in operation in the Jacmel area. The total turnover to date for these operations is Gs.102,000.

A store in Beaumont had purchased 1,100 fifty pound bags of fertilizer from the Port-au-Prince firm, AgroService. The fertilizer was all the same formula, and only a few sacks had been sold. This is at least partly because of a delay in setting up the loan guarantee facility for

HDF, which caused the fertilizer to be delivered after the date when it should have been applied. In addition, about 170 of the bags had gotten wet during shipment. The association has been advised to seek recourse for the delivery of damaged goods and is doing so. Other bags stored in the warehouse were absorbing small amounts of moisture from contact with cement floors and walls in the storage area. When bagged fertilizer gets wet, the nitrogen in it begins to deteriorate. The first loan repayment was due March 24 and will probably not be met from receipts from sales. However, HDF may be willing to extend the date due.

There is apparently one supply store that has been established separately from the project but partly as a result of product activities. This is a small AgroTechnique outlet that opened in Beaumont in March, 1994. Initially, most of its income will be from retail sales of fertilizer for beans. The plan, however, is that when volume is sufficient and other stores have been opened, the store will become a wholesale distribution center.

2. <u>Effect on availability and prices of fertilizers</u>.

Most fertilizer used to be imported from the Dominican Republic, but this has practically ceased because traders and transporters can earn more income by dealing embargoed goods. The next most logical fertilizer source is the U.S., but importing from the U.S. is difficult because of the arduous licensing procedure imposed by the government as well as the lack of transportation. Therefore, most fertilizer is now being imported from Europe. The change in the origin of fertilizer would have driven prices higher, but has not done so because prices on the world market have recently decreased.

In the Jacmel area, the store in Cap Rouge had bought 200 one hundred pound bags using members' contributions. The purchase price was Gs.165 per sack and sale price (to members) was Gs175 per bag. The sale price to non-members was Gs195. Of the markup of Gs20, Gs9 was paid to members and the rest retained.

Two other stores in the Jacmel area bought 360 one hundred pound bags for Gs165 each and had sold it for Gs220). At least one Jacmel store stocks fertilizer in three different formulas.

Prior to establishment of the input supply store in Beaumont, each farmer had to travel to Port-au-Prince to buy fertilizer for Gs170 per 100 pound bag (another source that the price was considerably higher). The store managers reported buying at Gs155 and selling at Gs190. Gs25 of the margin were for interest on the loan and Gs10 were for store expenses. It should be noted that the PPK stores are making fertilizer available to non-participants as well as to farmers who participate in the project. Also, all aspects of this input supply system are commercial and no subsidies are involved.

We conclude that PPK project activity has definitely increased availability of fertilizer in parts of the Jacmel and Beaumont areas. Farmers are paying about the same prices as before, however, they are better off because they do not have to spend time and money traveling to

distant supply stores.

D. PROVISION OF FINANCIAL SERVICES.

IICA has an agreement with USAID/Haiti and the Haitian Development Foundation (HDF) to address two issues: the credit needs of farmers to buy fertilizer and for their associations to pay operating expenses of the processing plants. This agreement established two lines of credit from HDF, with each loan guaranteed to 75% by the Project. Thus, US$20,000 can guarantee fertilizer purchases up to $26,667, and US$70,000 for processing plants can guarantee coffee purchases up to $93,333.

The loans for inputs are made to associations of farmers but loans are disbursed directly to input supply houses. The associations resell, with small margins to cover expenses. Margins can be larger for sales to non-members. Applications are reviewed by IICA staff members, trained by HDF, and interest is at prevailing market rates (now 22% including all charges). Repayment is over a six to nine month period. The loans are managed through HDF branch offices. HDF has an office in Jeremie for Beaumont, and will open one in Jacmel at the end of this month.

The loans for processing are made to associations that have processing stations. These loans are used to pay for buying coffee cherries and burlap sacks and for operating expenses. Also, their use is permitted to pay for "dry processing" and transportation to the USA on occasions on which an association might become an exporter. Principal and interest are to be repaid beginning three months and ending six months after the date of a loan.

Lending began late in 1993 and the first repayments are now coming due. Approximately 196,700 Gourdes have been loaned to four associations for purchasing agricultural inputs. Using a rate of Gs13 = US$1, this is about US$15,131, or 60% of the line of credit. Approximately Gs308,900 have been loaned to six associations for purchasing coffee cherries. This is about US$23,762 or 25% of the line of credit. Two other loans will be disbursed as soon as HDF has funds available, and other applications are pending. This performance is acceptable for the first year of lending activity.

The Project grantee has a major role in operation of the credit component. Besides providing the guarantee fund it is involved in determining demand for credit, advising on individual loans, training and advising farmers, training association personnel, quality control of fertilizer and coffee purchased with the credits, monitoring coffee prices, negotiating prices for contract processing, advising on coffee sales, and monitoring the entire program.

In project areas near Jacmel, farmers reported that it had become much easier for them to obtain fertilizer. It is likely that fertilizer use has increased, but we can not be certain of this. There has been no effect on acquisition of production inputs other than fertilizer, but the associations responsible for some of the stores are interested in stocking other items.

It is still a bit early to determine the effect of the loan facility on prices farmers receive for their coffee. Loans enable the associations to buy fresh coffee cherries and pay their members on delivery, however, the final purchase price will depend on whether the associations sell dried parchment coffee at prices that will enable them to pay dividends. Prices at all levels are influenced by supply and demand in major world markets. However, as noted above, there is evidence that market prices for natural coffee have gone up in the Project area in response to associations buying coffee.

E. FINDINGS REGARDING SUSTAINABILITY OF MARKETING ACTIVITIES.

Findings of the mid term evaluation team with respect to the sustainability of Marketing activities are summarized as follows:

1. Marketing and Selling: The project has not yet developed a marketing strategy. It is commonly predicted that developed country markets for specialty and gourmet coffees will continue to grow for the next several years. Assuming that an effective, efficient marketing system is developed, there is no reason why it should not be sustainable.

2. **Processing:** Sustainability of the washing stations depends on coffee production, continuity of the farmers' associations, profitability for the farmers from selling washed coffee, continued availability of financing, and development of an effective marketing system. We believe all of these criteria can be met.

3. **Input Supply:** As long as there is a loan facility, the input supply stores should be sustainable. It is possible that strong new competitors will emerge and that one or more stores opened under the project may not survive. This is a characteristic of free competition and would probably be of benefit to the farmers.

4. **Financial Services:** Assuming HDF continues to operate and the associations pay back their loans, there will be only one obstacle to the continuation of financial services. This is continuation of the loan guarantee fund. USAID/Haiti should explore ways of maintaining loan guarantees for 3-5 years after current PACD.

F. CONCLUSIONS ON MARKETING

1. Input Supply

a. A credit facility with HDF, to help farmers purchase agricultural inputs and help associations buy washed coffee, has been set up and is beginning to function.

b. The establishment of agricultural supply stores in coffee producing areas is an important project component. Five stores have now been established by PPK associations, and project activities contributed to a decision by AgroService to open a store in Beaumont.

c. The availability of fertilizers has increased in the areas that have supply stores and will increase for other agricultural inputs as stores enlarge their product lines. If the early stores are successful, other associations in areas that are under served with inputs are likely to open stores.

d. The prices farmers pay for fertilizer are approximately what they paid before project stores opened, however, they are better off because they do not have to spend time and money traveling to major market centers. Also, they are learning to run retail businesses.

2. Washed Coffee

a. The marketing side of the project has is not advanced as far as the production side. This creates an imbalance that should be corrected in the next few months.

b. Fourteen full size manually operated units have been established for processing washed coffee and should all be in operation during the next harvest. The first limit to their capacity is the size of the drying areas, which increases the risk that coffee will be bagged before it is dry enough.

c. Marketing linkages have not been established with traditional exporters, as they have not expressed interest in handing the PPK washed coffee. A linkage is being developed with a Dutch NGO, COHAN, and a consultant is pursuing niche marketing opportunities in the United States. The U.S. market is currently closed because of the trade embargo.

d. The associations have not yet had time to become marketing organizations. Farmers have received some training in quality control, however, they have no understanding of marketing and are relying on PPK to sell their coffee for them. They are not receiving market information of any kind.

e. It appears the project has somewhat increased the farm gate price for *cafe naturel.* Also, farmers are paid more for coffee delivered to the washing stations than they are for *cafe naturel.* A niche marketing strategy has the potential to raise prices to farmers even more.

f. When one takes into account income from non-coffee crops and the potential for significant increases in the prices farmers receive for washed coffee, the project clearly becomes economically viable.

g. The trade embargo is very harmful to this project. First, it has decreased availability and increased the cost of transportation. This applies to agricultural inputs, parchment coffee to Port-au-Prince, and green coffee to foreign markets. Second, it eliminates the most logical market, the USA. Third, it increases the cost and risk of travel by project to the growing areas. Fourth, it increases the cost of final processing in Port-au-Prince.

h. There is a good possibility that input supply and product marketing activities initiated by this project will be sustainable. This statement assumes that the project will have at least one year of life after the trade embargo is ended.

i. There is currently a substantial amount of dried parchment coffee in stock in associations' warehouses, some of which is being moved to a central storage facility in Beaumont.

G. RECOMMENDATIONS ON MARKETING

1. Input Supply

a. The number of supply stores should be increased. This can be accomplished by informing those associations that have not yet opened supply stores of the experiences of those that have operated successfully, giving particular attention to the effects on the availability of fertilizers and other inputs.

b. Each store's initial order should be small and should be carefully monitored as to ordering procedures, inbound freight, stocking, selling, accounting, and loan repayment. This will help avoid problems which could harm this project component.

c. Project officials should pay special attention to the store in Beaumont to be sure its initial order of fertilizer is sold and the loan is repaid. Some stock can perhaps be sold to the PPK group in Tozia.

d. Steps should be taken to ensure the continuity of the HDF loan facility after the current PACD. This fund is very important to the project.

e. Capabilities of the associations should be continually improved through appropriate training of both leaders and members.

2. Washed Coffee

a. The project should experiment with increasing drying capacity in the processing units by spreading coffee on plastic sheets. This may be very useful when coffee arriving to a plant exceeds its drying capacity.

b. Farmers should be taught to assess the dryness of coffee by its appearance, feel, aroma, and sound. The humidity meters should be moved to project offices in Jacmel and Beaumont and used periodically for testing samples of coffee.

c. The project should work with COHAN to sell the coffee that is now available and to plan for processing and selling the coffee from the 1994-95 harvest.

d. The project should also work with Gary Talboy to develop niche markets for the PPK coffee. Then, COHAN or another firm could serve as contract processor and exporter to specialty coffee buyers. COHAN has said its charge for this service would be US$0.17 per pound of green coffee exported. At present, the U.S. market cannot be developed because of the embargo.

e. It is possible that, after a few years of successful operation, the PPK associations will form a union and open an office in Port-a-Prince. Then this union can become the exporter of record and can hire COHAN or another firm to do the processing and shipping.

f. PPK should enlarge its contacts with traditional coffee exporters. Although they express disinterest in parchment from the Project area, they need more product to sell and may eventually become interested.

g. The farmers will pay much more attention to the quality of their coffee if they understand how coffee is used in developed countries, which quality characteristics consumers look for, and why quality is important. Therefore, the "cascade" training system should be used to give farmers appropriate training. Talboy has offered to provide photographs and a video on marketing and consuming specialty coffee in the U.S. Other videos can be obtained from coffee marketing organizations that cover roasting, cup tasting, packaging and labeling, preparation of coffee beverages, etc.

h. The Haitian farmer should not continue to be ignorant about conditions in the outside world. Coffee farmers should receive basic information, by radio and through their associations, about coffee prices and fundamental factors which affect them. These factors can include major changes in supply, stocks, and consumption and the actions of speculators.

i. Current plans are to prepare three project staff members to work in marketing, of whom Alexis Gardella will be responsible temporarily for this function. She and her eventual replacement should be responsible to do at least the following:

- Maintain contact with COHAN to see that the coffee that is now ready to sell is exported and that the farmers are paid at least Gs7.80 per kilogram of dried parchment coffee, plus dividends.

- Maintain contact with COHAN, Talboy, and local exporters as plans for marketing the 1994-95 crop of coffee are developed and implemented.

- Conduct training in marketing, as discussed above.

- Develop and implement a small market information system, as discussed above.

- Continually monitor all aspects of production and marketing that affect the quality of coffee produced for export by project beneficiaries.

- Report frequently to the associations, project staff, and AID on the status and future plans for the marketing effort.

j. PPK should experiment in one producing area with organically grown

coffee. Such coffee requires more labor and has lower yields, however, it eliminates the expense of agricultural chemicals, can bring a much higher price, and is much better for the environment.

k. Stocks of coffee that are now building up in project areas should be sold quickly before they deteriorate. This will be complicated by the fact that farmers' in some areas

Principal Recommendations.

The importance of the Coffee Rehabilitation Project derives from two basic elements--its potential for developing sustainable activities which can affect the chronic problems of Haitian agriculture and its effects on other USAID actions through lessons learned. In the first case, the Project will have to make a concerted effort to concentrate its limited resources on assuring at least a foundation for sustainability by PACD. In the second, USAID will be able to use the experience gained in this Project to consolidate and coordinate its program in order to add a certain synergy to activities undertaken in agriculture, protection of the natural resource base, and rural enterprise development. Recommendations in each of these areas will be given in the form of a set of priorities.

A. PRIORITY ACTIONS TO BE TAKEN BY PPK FOR ENSURING SUSTAINABILITY.

Sustainability will vary for each component. Nevertheless, PPK must focus its efforts in the few remaining months of the Project on the following activities:

- Replacement of rust susceptible varieties. Progress has been made in introducing new, higher yielding coffee varieties to the Project area. Several areas require consolidation. True rust resistant varieties, such as Catimor, must be emphasized. An assured source of Catimor seeds thus needs to be secured in order to expand its usage within and outside the Project areas.

  At the same time the Project must take the necessary actions to permit the elimination of subsidies remaining on the production and distribution of Coffee seedlings. A way must be found to turn seedling production into a sustainable business.

- Ensure the autonomy and integrity of associations. The important strides made in creating grass roots, democratic institutions responsible for their own development must not be lost. These pioneering associations are at a delicate stage in their development. Their members have understood the benefits of working together to achieve an economic goal however, long term sustainability depends on their acquiring the competencies necessary to conduct their affairs as true rural enterprises. They will also need to learn how to deal confidently and as equals with other businesses, both suppliers and customers. Building these competencies will require continual monitoring, training and technical assistance.

- Coffee-based cropping/conservation system. The Project has developed an effective and understandable system for extension of basic coffee production themes. It incorporates an inter-cropping technique which allows the farmer to create an income stream from other crops while his coffee is maturing. An efficient way must be found to replicate this approach on a wider scale and to projects which are not specifically aimed at coffee production (e.g., coffee-based conservation projects).

- Marketing of high quality coffee. A coherent strategy must be developed to provide PPK farmers and associations access to the widest possible number of coffee marketing options. Relations already developed with COHAN need to be solidified. The international niche market initiative should be actively pursued. Other local market players should not be written off. A policy of seeking and creating opportunities should be pursued.

The final two recommendations with regard to PPK operational strategy both involve components which are equally dependent on improvements in management competency of associations:

- Operation of coffee washing stations. The project redesign called for increasing training and technical assistance in harvesting, post-harvest handling, and processing. This has been done, but additional training is needed to ensure the quality of the finished parchment coffee. As noted, these stations are generally well constructed. The key to their success will be the way they are operated this harvest season. This activity is also very dependant on finding good markets for the output of the units in a timely manner.

- Provision of agricultural inputs through association managed stores. This is potentially the most sustainable and economically viable activity undertaken by the associations. All efforts should be made to provide the associations with the additional support necessary to permit them to operate these stores without outside assistance.

B. PROGRAMMING OPTIONS FOR USAID.

The Coffee Rehabilitation Project has had essentially two years to accomplish some very ambitious objectives. For the most part it has successfully accomplished the goals and purpose laid out. However, the sustainability of these activities after PACD needs to be consolidated.

A number of the activities in PPK are similar in content and in operational principles to other AID projects. Some of the sustainability problems are also similar. It is therefore recommended that USAID develop a program approach to assure the integration of activities developed under PPK with other, similar ones in the same sector.

Recommendations are thus divided into short-and long-term actions.

1. Short term Options.

- Continuity and Sustainability of Actions. It is recommended that the Project be **extended for at least eighteen months** after the current PACD of February 28, 1995. While the Project has accomplished most of the goal and purpose as laid out in the modified grant, it has not yet had time to become fully sustainable. An additional 18 months would make up for time and effort lost due to the suspension due to political problems. Moreover, it takes coffee trees four years to bear after they are transplanted, and they

do not reach peak production until three years after that. The additional time will allow a better assessment of the potential of the new varieties, as well as providing more time to increase the volume of rust resistant stock planted. The investments in human capital represented by the strides made by the Project in transferring competence to farmer associations also need to be consolidated. During this extension, the AID Mission should give priority attention to resolving the problems of the Project's marketing strategy. This would include, but not be limited to easing the logistical problems involved in opening up a niche market (eg. possibilities of exemption of coffee produced by small-farmer associations from embargo).

- Project Independence. During the extension, the coffee project should continue to be separate and distinct. In saying this we recognize that it may be easier for the Mission to manage one large project than two or more smaller ones, however, we believe the coffee industry will be best served by a specialized, limited project. The reasons are that coffee is extremely important in Haiti and that this project is substantially different than any of the Mission's other projects in the agricultural sector. The PLUS project, for example, is working in many more parts of the country, is helping plant many kinds of tree and non-tree crops, and does not have either a technological package or a marketing component. There may, however, be ways in which the two projects can work together synergistically.

- Implementing Organization. We recommended that the project continue to be implemented by the current grantee during the one year extension. It would be very harmful to the project if the basic thrust, personnel, or even the name were changed.

2. Long Term Options.

- Rural enterprise development and management. The concept of locally responsible associations managing their own development evolved in the Coffee Project as a response to the institutional void in rural areas. Similar responses have evolved in other USAID projects. These small free associations need to be further developed through monitoring, training, and technical assistance to give them the management competence to operate as truly independent rural enterprises. The focus of this activity should be redirected toward Rural Enterprise Development.

  The association management, input supply, processing, and marketing components of the project must be further developed and made sustainable. In the long term they should be grouped together and turned it into a separate Rural Enterprise Development Project, implemented by a grantee. This project will help association members and officials develop their skills of working together. It will help expand the number and increase the effectiveness of the input supply stores and the processing stations. It will also promote the development of alternative marketing channels for the washed coffee as well as the ability of coffee farmers to negotiate fair prices in both input and product markets.

  A market information system should be developed and integrated into a Rural Enterprise Development Project in the former PPK areas.

- Coffee based Conservation Systems. PPK has shown that coffee is an essential element of the small farm economy for many rural Haitians and an important aspect of soil and water conservation and reforestation activities. This important role can only be sustained if long term actions are undertaken to replace rust susceptible varieties in all the country's coffee producing areas. Project experience in Seedling Production and Coffee Cropping Systems has led to development of a systematic approach to coffee production which should be integrated into the PLUS Project (or a successor) in the form of a Coffee Based Conservation component.

  Although coffee is the most important planting stock delivered by PLUS, this project has not developed an extension approach for coffee. The seedling production and distribution activities of both Projects are very similar and can profit from being merged. The synergy from combined action on a wider front will also permit more attention to be given to the problem of delivering planting stock at unsubsidized prices.

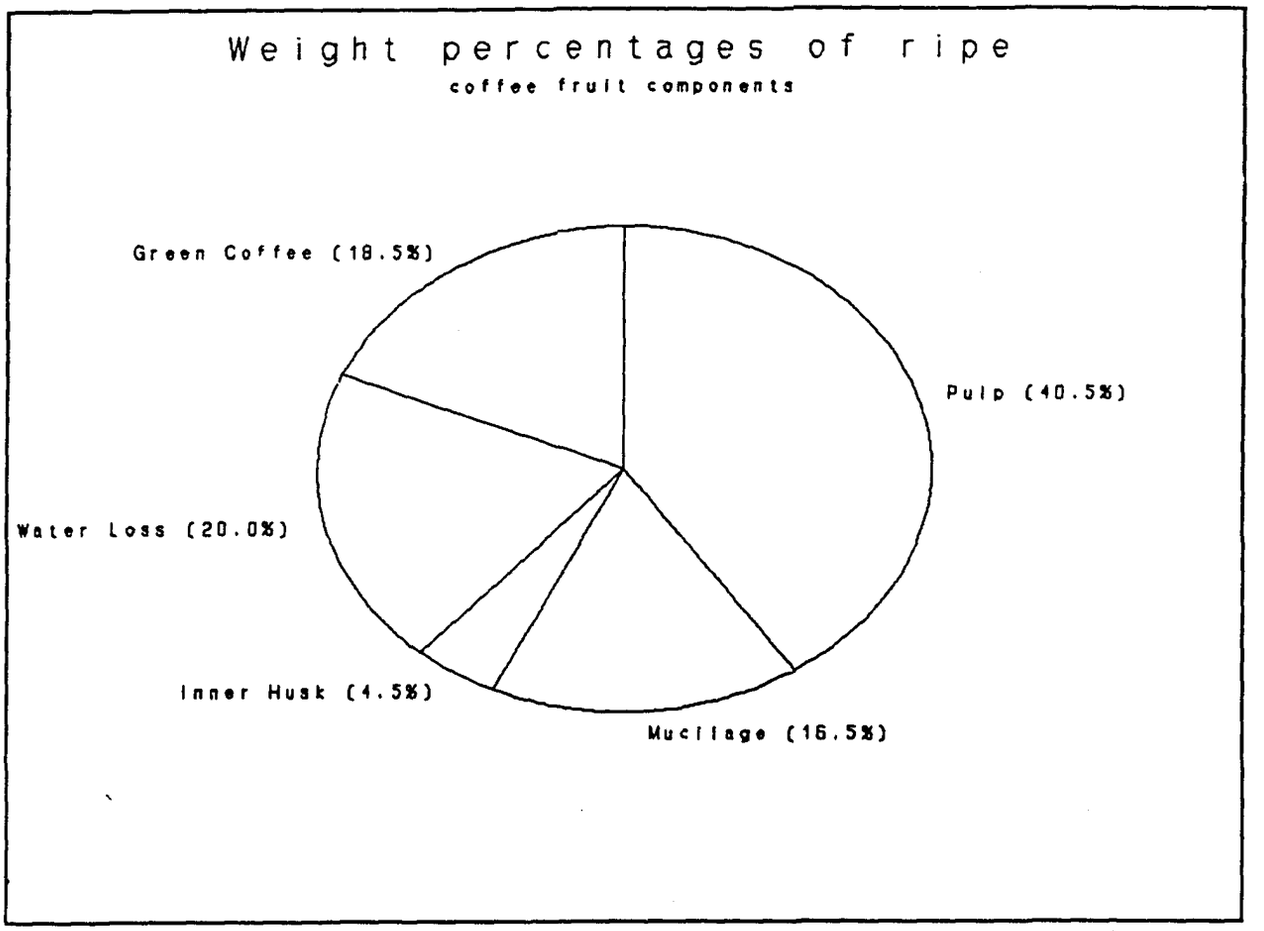
Annex 1.
Coffee Sector Rehabilitation Project
Strategic Performance Indicators

SPI	Data Source	Status
I.1. Farmer net incremental income	PPK Region, Turbo	Incomplete
I.2. Premium Prices by coffee Quality	Assn. records	7 Gs/4-l. marmite paid to farmers. 7.5 Gs paid by COHAN for parchment.
I.3. No. farmers receiving premium prices	Assn. Records	955 farmers sold cherries.
I.4. Net returns to farmer nurseries after subsidies	PPK records	Subsidies still in place.
I.5. Phase out subsidies for seedlings	PPK Records	Incomplete.
I.6. Fertilizer Price reductions to farmers	PPK and Assn.records	Bulk purchases financed through HDF (165 Gs/100 lb.bag)
I.7. Pesticide price reduction to farmers	PPK and Assn. records	No transactions through assns. to date. No Data.
I.8. Farmer net incremental income/ha	Turbo	No Data
I.9. Area net incremental income	Turbo	
II.1. Land use changes from coffee farming system	PPK records, observations	276 new ha. planted to Coffee based conservation
II.2. Volume of water saved from runoff	Revise method	Possible separate hydro study.

III.1. Use of organic input by farmers	Turbo	No Data
III.2. % increase in area under perm. vegetation/imp. land use	Revise method	Possible GIS application
IV.1. Value, volume coffee marketed at higher prices:	Assn records	700 lbs at 7.5 Gs/lb. (COHAN)
IV.2. Quantity ag. chem. bought by farmers at better prices	Assn. records Turbo	1485 bags fertilizer, (4 assns.)
IV.3. Net returns to assn. processing centers	Assn. records	Break even calc. at 7.8 Gs, but need to take into account labor costs, depreciation
V.1. Volume of coffee handled by assn. washing stations	Assn. records	Currently 4950 kgs.in assn. inventories. (4 assns.)
U.2. New drying floors not fin. by project	Turbo	No Data
V.3.Water holding structures not fin. by project	Turbo	No Data
V.4. Quantity seedlings prod. by farmers without subsidies	Project records	Incomplete
V.5. No., volume of small storage facilities not fin. by Project	Turbo, PLUS Turbo	No Data
V.6. Farmer appraisals and evaluations	Project records	

Annex 2

Coffee Terms Definitions:



Pulp: outer structure of the coffee fruit, usually red when ripe. Made of cellulose, protein and sugars.

Mucilage: jelly-like structure located beneath the pulp. Made of sugars and pectic substances. May have up to 93% of humidity.

Parchment: inner husk of the fruit, basically cellulose.

Green Coffee: Hulled Coffee ready for export & roasting.

Natural Coffee (Cafe Naturel): Dried cherries. Natural Coffee loses quality during and price is less than washed coffee. Its quality is hard or harsh while washed coffees are mild.

Washed Coffee: Ripe coffee cherries that are depulped. After depulping the seeds or beans are sent to tanks where fermentation of the mucilage takes place. The fermentation is followed by washing of the seeds and then seeds or beans are dried.

Appendix A

PERSONS CONSULTED

AgriSupply, Anne Haugue

AgroService, Claude Derenoncourt

Coffee exporters: Hubert Dufort

COHAN, Paul Duret, Gerant; Mean Carmel Sylvain

Continental Shipping Corp., Bernard E. Henneberg, President

Fiester, Donald R., Agricultural Consultant

Fondation Haitienne de Developpement, Guy R. Paul, Directeur Executif

Friedrich-Naumann-Stiftung: Gerhard Schnepel, Representative in Venezuela

IICA: Alfredo J. Mena, Acting director; Raul Jean Luis, Technical Coordinator; Daniel Demare; Alexis Gardella; Desir Guesler, Jacmel; Jean Rousseau Saint Louis, Beaumont

Ministere d'Agriculture: Francois Severin, Ministre d'Agriculture; Philippe Mathieu, Directeur General-adjoint; M. Duperral, Attache a la Direction General; Jose Juan-Baptiste, Directeur Centre Agricole, Beaumont; Feguiere Mathurin, Jacmel

Pan American Development Foundation: Arlin Hunsberger, Manager, Bertrand H. Laurent, Director; Michael Bannister, Assistant Director for Productive Land Use Systems

PLUS Project Evaluation Team: Donald Brown, Michelet Fontaine, Alicia Grimes

Project personnel, farmers, and coffee buyers in the project areas.

Talboy, Gary, Specialty Coffee Consultants

Turbo Systems: Carl Darbrouze, Project Manager; Florentine Latortue, M&E Specialist

USAID/Haiti: Abdul Wahab, Ron Daniels, Marc-Eddy Martin, Gary Imhoff, Lionel Poitevien, Nadine Beaulieu, Martial Bailey, Gabriel Verrett, Morgan Gilbert

Appendix B

DOCUMENTS CONSULTED

"Cafe Naturel vs. Cafe Lave: Advantages and Disadvantages in the Context of Traditional Coffee Production and the PPK Project," IICA, Alexis Gardella and Georges Werleigh, 3/94.

"Coffee Revitalization Project No. 21-0216, Project Paper Supplement," 12/92.

"Commercialisation du Cafe en Haiti," PPK, Alvaro Jimenez Castro, 5/93.

"Dokiman Formasyon Sontem Organizasyon Ak Fonksyonman Gwoupman Ak Asosyasyon Gwoupman Plante," PPK, 9/93.

"Monitoring and Evaluation System and Coffee Strategic Performance Indicators," Angelos Pagoulatos, 3/93

"Monitoring and Evaluation System Implementation," Turbo Systems, Dr. Florentino Latortue, undated.

"POD, FY 1995-2000," USAID/Haiti, 3/93.

"Possible Reactivation of the Coffee Revitalization Project," LAC TECH Project, Kenneth D. Weiss, 9/92.

"PPK Implementation Plan for 1994," IICA.

PPK Project, "Volume 3: Baseline Study," IICA, 10/92.

"Progress Report for the Coffee Revitalization Program, 8/1/93-1/31/94," IICA, 3/94.

Documents regarding the PPK loan guarantee fund.

PLUS project: 1993 annual report and newsletters

"Revised Program Description," Grant/CA No. 521-0206-G-00-0008-00, USAID/Haiti, 2/93.

Report on the specialty coffee market (untitled), Specialty Coffee Consultants, 9/93.

"USAID Monitoring Report," 2/94

Various documents on the coffee industry, in Haiti and world wide.